Exhibit 1

Expert Name	Citation	Quote
1		"Q. Okay. Are you aware of any published guidelines on how to apply the 'as likely as not' standard to
	Bird GC Dep. Tr. at 61:21-62:2	scientific evidence?
Dr. Steven Bird	(JA Ex. 148, D.E. 469-2)	A. I don't recall seeing that anywhere."
		"Q. Have you ever used the phrase 'equipoise and above' to describe the scientific evidence in an article that
		you've published?
		A. In an article? I don't think so.
	Bird GC Dep. Tr. at 220:21-	Q. What about in an expert report in litigation?
Dr. Steven Bird	221:5 (JA Ex. 148, D.E. 469-2)	A. I don't think so."
DI. Stevell Bild	, , , , , , , , , , , , , , , , , , , ,	"Q. Do you equate 'equipoise and above' with 'as likely as not'?
Du Stavan Bind	Bird GC Dep. Tr. at 221:20-	A. 'Equipoise and above' to me means 'as likely as not or greater.' 'As likely as not' means to me 50/50."
Dr. Steven Bird	222:2 (JA Ex. 148, D.E. <u>469-2</u>)	
		"Q. If you say that the evidence is equipoise or 50/50, does that mean that the evidence is not sufficient to meet a 'more likely than not' standard?
		MR. MANDELL: Objection.
		A. I don't know. I don't know that I've ever used the that term of okay. It sounds a kind of a legal term
		rather than a medical expert term.
		rather than a medical expert term.
		Q. Which term is that?
		A. The question that you just asked.
		Q. Okay. Let's repeat that question, and you can identify what the legal term is versus the scientific term.
		(Record read)
		A. Yeah. That sounds like a legal standard.
		Q. What part of that question, the whole thing?
	Bird GC Dep. Tr. at 222:9-223:5	A. Yes."
Dr. Steven Bird	(JA Ex. 148, D.E. <u>469-2</u>)	
		The science of additive and synergistic interactions between multiple chemical contaminants such as, e.g., the
		PCE, TCE, DCE, vinyl chloride, and benzene series here, is evolving. However, the science published in the
		area to date is compelling and supports a qualitative conclusion (particularly under an "equipoise" or "as
	Bird GC Rep. (Bladder) at 44 (JA	likely as not" standard) that Camp Lejeune Plaintiffs were exposed by multiple routes of exposure to multiple
Dr. Steven Bird	Ex. 67, D.E. 463-6)	chemicals with (as likely as not) additive if not multiplicative effect.
Di. Steven Bild	24. 07, 2.2. <u>103 0</u>)	"It is my opinion that these water contaminants have been shown to cause adverse health effects, including
		bladder cancer, in occupational studies, environmental studies outside of Camp Lejeune, and specifically in
	Dind GC Don (Dladdon) at 54 (IA	Marines and civilians who were based at Camp Lejeune, especially given the reduced standard at issue in this
Dr. Stayon Dind	Bird GC Rep. (Bladder) at 54 (JA Ex. 67, D.E. <u>463-6</u>)	litigation, an as likely or not standard, or equipoise."
Dr. Steven Bird	LA. 0/, D.L. <u>403-0</u>)	

Expert Name	Citation	Quote
Dr. Steven Bird	Bird GC Rep. (Bladder) at 6 (JA Ex. 67, D.E. 463-6)	"Even though some of the epidemiological results presented in this report are not statistically significant under traditional methods, they are important and relevant information with regards to causation where the standard is equipoise because the concept of equipoise refers to genuine uncertainty within the expert medical community."
Dr. Steven Bird	Bird GC Rep. (Bladder) at 8 (JA Ex. 67, D.E. <u>463-6</u>)	"In my view, the water at Camp Lejeune, which was contaminated with significant levels of benzene, trichloroethylene (TCE), perchloroethylene (PCE), and vinyl chloride, causes bladder cancer. Each of these toxins has meaningful scientific evidence supporting its causality to bladder cancer. This is especially true given the reduced standard at issue in this litigation, an as likely as not standard or equipoise."
Dr. Steven Bird	Bird GC Rep. (NHL-Leuk) at 53 (JA Ex. 103, D.E. <u>465-8</u>)	"The science of additive and synergistic interactions between multiple chemical contaminants such as, e.g., the PCE, TCE, benzene, and vinyl chloride, is evolving. However, the science published in the area to date is compelling and supports a qualitative conclusion (particularly under an "equipoise" or "as likely as not" standard) that Camp Lejeune Plaintiffs were exposed by multiple routes of exposure to multiple chemicals with (as likely as not) additive if not multiplicative effect."
Dr. Steven Bird	Bird GC Rep. (NHL-Leuk) at 53 (JA Ex. 103, D.E. <u>465-8</u>);	"Strength of association is demonstrated by statistical significance. That is, an odds ratio for the occurrence of an adverse health effect in those exposed to benzene of greater than 1.1 (given the as likely as not standard applicable to Camp Lejeune). "
Dr. Steven Bird	Bird GC Rep. (NHL-Leuk) at 7 (JA Ex. 103, D.E. 465-8); e.g. Bird GC Rep. (PD) at 6 (JA Ex. 118, D.E. 467-1); Bird GC Rep. (Kidney) at 6-7 (JA Ex. 83, D.E. 464-4); Bird GC Rep. (Bladder) at 7 (JA Ex. 67, D.E. 463-6)	"The statute at issue in this case, the Camp Lejeune Justice Act (CLJA), states: (2) Standards – To meet the burden of proof described in paragraph (1), a party shall produce evidence showing that the relationship between exposure to the water at Camp Lejeune and the harm is – (A) Sufficient to conclude a causal relationship exists; or (B) sufficient to conclude a causal relationship is at least as likely as not. This standard has significant implications for the analysis at issue in this report. The standard and its language have application in the field of toxicology, epidemiology, and other similar sciences. The determination of a causal relationship is naturally different under a standard that requires a proof 'more likely than not,' as compared to a standard that requires a proof 'as likely as not."
Dr. Steven Bird	Bird GC Rep. (NHL-Leuk) at 70 (JA Ex. 103, D.E. 465-8);	"It is my opinion that the TCE, PCE, and benzene water contaminants have been shown to cause adverse health effects, including leukemia and NHL, in occupational studies, environmental studies outside of Camp Lejeune, and specifically in Marines and civilians who were based at Camp Lejeune, especially given the reduced standard at issue in this litigation, an as likely or not standard, or equipoise."
Dr. Steven Bird	Bird GC Rep. (PD) at 34 (JA Ex. 118, D.E. <u>467-1</u>)	"The science of additive and synergistic interactions between multiple chemical contaminants such as, e.g., the PCE, TCE, DCE, vinyl chloride and benzene seen here, is evolving. However, the science published in the area to date is compelling and supports a qualitative conclusion (particularly under an 'equipoise' or 'as likely as not' standard) that Camp Lejeune Plaintiffs were exposed by multiple routes of exposure to multiple chemicals with (as likely as not) additive if not multiplicative effect."

Expert Name	Citation	Quote
Dr. Steven Bird	Bird GC Rep. (PD) at 37 (JA Ex. 118, D.E. 467-1)	"The water at Camp Lejeune was contaminated for decades with TCE, PCE, vinyl chloride, and benzene. It is my opinion that these water contaminants have been shown to cause adverse health effects, including Parkinson's Disease, in occupational studies, environmental studies outside of Camp Lejeune, and specifically in Marines and civilians who were based at Camp Lejeune, especially given the reduced standard at issue in this litigation, an as likely or not standard, or equipoise."
Dr. Amelia Boehme	Boehme Dep. Tr. at 327:18-328:7 (JA Ex. 167, D.E. 470-6)	"Q: On page [15] you cited the [CLJA], which includes that part of the standard is whether a party produces evidence showing that the relationship between exposure to the water at Camp Lejeuene and the harm is sufficient to conclude that a causal relationship is at least as likely as not. Is that where the langauge in your three opnions came from? A: Yes."
Dr. Amelia Boehme	Boehme Dep. Tr. at 64:15-65:23 (JA Ex. 167, D.E. 470-6)	"Q: What does [at least as likely as not] mean to you? A: So to me, it means that when evaluating the evidence at large, that more often that the combined evidence indicates that TCE increases the incidence of PD, PCE increases the incidence of [PD] and that it's essentially that are measures of association indicate risk factors. Q: And have you ever used this standard in any of your publications? A: I don't know Q: Have you ever written an expert report stating your opinions using the [at least as likely as not] language? A: I have no idea."
Dr. Amelia Boehme	Boehme Rep. at 15 (JA Ex. 121, D.E. 467-4)	"I have reveiwed portions of the Camp Lejeune Justice Act of 2022, and specifically Sec. 2, (b), 'Burdens and Srandard of Proof.' [Cites CLJA] "Further, the ATSDR described in its 2017 Health Assessment (1/13/2017) equates the standard used in its Health Assessment of 'equipoise and above' with the [CLJA's] standard of 'at least as likely as not."
		"Acknowledging that the Bradford Hill considerations are a guideline for evaluating the literature on a topic when assessing causality and not a checklist, the overwhelming evidence from the literature, in addition to meeting the Bradford Hill considerations addressed above, supports the conclusion it is at least as likely as not that both TCE and PCE can cause PD."
Dr. Amelia Boehme	Boehme Rep. at 21 (JA Ex. 121, D.E. 467-4)	
Dr. Amelia Boehme	Boehme Rep. at 22 (JA Ex. 121, D.E. 467-4)	"The consistent findings from the epidemiologic and laboratory studies present indisputable relationships between both TCE and PD, and PCE and PD, whereby both relationships are at least as likely as not a causal relationship."

Expert Name	Citation	Quote
		"[I]t is at least as likely as not that exposure to the water at Camp Lejeune, contaminated with TCE, can cause Parkinson's Disease."
		"[I]t is at least as likely as not that exposure to the water at Camp Lejeune, contaminated with PCE, can cause Parkinson's Disease."
Dr. Amelia Boehme	Boehme Rep. at 22 (JA Ex. 121, D.E. 467-4)	"[I]t is at least as likely as not that exposure to the water at Camp Lejeune, contaminated with TCE and PCE, and other volatile organic compounds, can cause Parkinson's Disease."
	Cannon Dep. Tr. at 132:7-11 (JA	"Q. In your view, is potential risk synonymous with at least as likely as not? Mr. Miceli: Object to form. A. The coherence of the epidemiological and toxicological data in my view are."
Dr. Jason Cannon Dr. Jason Cannon	Ex. 168, D.E. <u>470-7</u>) Cannon Dep. Tr. at 248:15-249:5 (JA Ex. 168, D.E. <u>470-7</u>)	"QWhat does at least as likely as not mean? A. I think we went through that earlier on. It's literally 50/50 at least as likely as not. It's one below equipoise and above. And I desribed this here. Sufficient to conclude as least as likely as not, but not sufficient to conclude that a causal relationship exists. Q. And you're quoting from the ATSDR assessment of the evidence, correct, or is that your own words? A. Yes, correct. Q. Is at least as likely as not a scientific term? A. It's not something we normally use in a peer-reviewed mechanistic or pathology paper."
Dr. Jason Cannon	Cannon Rep. at 1 (JA Ex. 123, D.E. 467-6)	"Tetrachloroethylene (PCE) is at least as likely as not a cause of Parkinson's disease (PD) based upon the following scientific evidence"
Dr. Jason Cannon	Cannon Rep. at 28 (JA Ex. 123, D.E. 467-6)	Epidemiological and toxicological data for PCE and PD are coherent for potential risk (at least as likely as not) plus indicution of PD relevant mechanisms.
Dr. Lucio Costa	Costa Dep. Tr. at 211:22-212:10 (JA Ex. 169, D.E. <u>470-8</u>)	"So based on this little of information, what I can say is that the exposure could be as likely as not associated with PD. But certainly as I already mentioned, TCE the evidence for TCE is much stronger, much, much stronger. Yeah, I didn't find I mean, as I said, I didn't look very in depth with PCE, but PCE was mentioned in some of the in some of the in the epidemiological studies. And it looked interesting because, for example, in the twin study that we went through before, there was a hint that it could be an association with PCE as well but not as strong with TCE. But, you know, other type of evidence was just not just not there, so"
Dr. Lucio Costa	Costa Dep. Tr. at 40:17-22 (JA Ex. 169, D.E. <u>470-8</u>)	"Q. You use the standard at least as likely as not; right? A. Yes. Q. How do you define that standard? A. Well, this is not my language in that in my profession we do not use this type of language."

Expert Name	Citation	Quote
Dr. Lucio Costa	Costa Dep. Tr. at 41:6-12 (JA Ex. 169, D.E. <u>470-8</u>)	"Q. Have you published any scientific papers using that at least as likely as not standard? A. No, I have not. Q. Do you recall if you used that at least as likely as not standard in the 2022 case we discussed earlier? A. No. No."
Dr. Stephen Culp	Culp Rep. at 2 (JA Ex. 70, D.E. 463-9)	"The standard of proof for my review is determined by the Camp Lejeune Justice Act of 2022 This legal standard is consistent with the 'equipoise and above' classification of the evidence described in the scientific literature. Using this standard, my report will examine whether the published epidemiological literature on exposure to PCE, TCE, benzene, and the contaminated water at Camp Lejeune provides sufficient evidence to conclude that exposure to the same causes or is as likely as not a cause of bladder cancer."
Dr. Stephen Culp	Culp Rep. at 4-5 (JA Ex. 70, D.E. 463-9)	"ATSDR applied the 'at least as likely as not' standard (ATSDR, 2017). In doing so, it announced that it did not use confidence intervals to establish statistical significance, explaining that there are limitations of using statistical significance testing and that the failure to achieve statistical significance does not indicate lack of evidence for a causal association Given that the same standard governs my analysis here, in addition to other considerations regarding the relevant literature, I agree with ATSDR's approach and employ the same in my review."

Expert Name	Citation	Quote
-		"Q 'For the purposes of this report and where relevant, I have applied the standards and terminology used
		under legal review, which I have been instructed in this case to be equally as likely as not regarding risk for
		PD from sustained exposures to TCE and other solvents.'
		Did I read that correctly?
		A Yes.
		Q What does equally as likely as not mean?
		A In the context in which I have written it here, I define this as meaning that the risk for PD from TCE
		exposure is is sort of like if you imagined, like, a scale right? – where sort of more likely than not would
		be tipping the scale, you know, if you think out of 100, like 51 to 49, equally likely as not being sort of a
		50/50. So meaning thatAnd the data could show the data show that it isSort of tricky not to say 'equally
		likely than not' when you're trying to say that.
		but equally as likely to show an effect as not, which, you know, typically when we report, like, neuron loss
		in a paper, it's with statistical significance.
		So when I say in this paper I've applied the standards and the terminology of a legal review, I'm simply
		explaining how I extrapolate what would be statistical significance to the, in this case, sort of lower standards of equally likely as not.
		Q And where does the phrase 'equallyequally as likely as not' originate from?
		A I first came upon that terminology in the Camp Lejeune Justice Act document.
		Q And when you say the Camp Lejeune Justice Act document, are you referring to the statute?
		A Yes. The equipoise or above."
	Da Minar da Dan, Tr. at 166-24	The equiposit of deciver
Dr. Briana De Miranda	De Miranda Dep. Tr. at 166:24-170:1 (JA Ex. 170, D.E. 470-9)	
Dr. Briana De Milianda	170.1 (JA Ex. 170, D.E. <u>470-9</u>)	"Q Other than the Camp Lejeune water litigation report, have you used equally as likely as not in a report for
		litigation?
		A I don't believe so.
		Q Have you ever read a scientific article that used this category scheme used by ATSDR?
		A Not to my knowledge.
		Q Is this the typical vernacular used in scientific literature?
		A No.
		Q Is it the typical vernacular used in toxicology?
		A Typically not.
		Q The typical vernacular used in Parkinson's disease literature?
	De Miranda Dep. Tr. at 87:18-	A No."
Dr. Briana De Miranda	88:8 (JA Ex. 170, D.E. <u>470-9</u>)	
		"For the purposes of this report and where relevant, I have applied the standards and
	De Miranda Rep. at 1 (JA Ex.	terminology used under legal review, which I have been instructed in this case to be, 'equally as likely as not,'
Dr. Briana De Miranda	129, D.E. <u>467-12</u>)	regarding risk for PD from sustained exposures to TCE and other solvents."

Expert Name	Citation	Quote
		"Q So here it's not just I understand 'at least as likely as not' to be the causation standard that I'm using my opinions as a scientist. It's the causation standard under the Camp Lejeune Justice Act. So you're saying this is the standard under a specific law. Are you qualified as a scientist to make that conclusion? A. Well, I'm qualified to make a scientific opinion, and the scientific opinion I make can certainly put in the context of the legal standard. Just as if a jury is told what the standard is to evaluate something, they're told what the law is and then make a determination."
	Felsher GC Dep. Tr. at 18:9-21	
Dr. Dean Felsher	(JA Ex. 164, D.E. <u>470-3</u>)	
Dr. Dean Felsher	Felsher GC Rep. (NHL-Leuk) at 5 (JA Ex. 107, D.E. <u>466-1</u>)	"I understand 'at least as likely as not' to be the causation standard under the Camp Lejeune Justice Act."
Dr. Michael Freeman	Freeman Dep Tr at 281:15-18 (JA Ex. 159, D.E. <u>469-13</u>)	"Q. Where did you get the 'at least as likely as not' language from? A. From the Camp Lejeune Justice Act of 2021."
Dr. Michael Freeman	Freeman Dep Tr at 283: 6-16 (JA Ex. 159, D.E. 469-13)	"Q Have you used 'at least as likely as not' in any scientific publications that you've authored? A. No, I have not. I have used only substantial factor. Q. Have you seen the language 'at least as likely as not' in peer-reviewed literature that you've reviewed? A. I can't tell you that I have any specific recollection that I have or haven't."
Dr. Michael Freeman	Freeman Rep. (PD) at 10 (JA Ex. 131, D.E. 467-14); <i>e.g.</i> Freeman Rep. (Kidney) at 11 (JA Ex. 86, D.E. 464-7)	"Claimants who do file in court are entitled to a standard of proof lower than the preponderance-of-the- evidence standard typically used in tort cases: they need only show that 'a causal relationship is at least as likely as not.""
Dr. Michael Freeman	Freeman Rep. (PD) at 23 (JA Ex. 131, D.E. <u>467-14</u>); <i>e.g.</i> Freeman Rep. (Kidney) at 24 (JA Ex. 86, D.E. 464-7)	"The Camp Lejeune Justice Act specified that claimants need only show that 'a causal relationship is at least as likely as not.' That level corresponds to the ATSDR classification 'equipoise and above' for which a relative risk of >1.1 is sufficient."
Dr. Kathleen Gilbert	Gilbert Dep. Tr. at 41:14-17 (JA Ex. 165, D.E. <u>470-4</u>)	"Equipoise as far as I understand is more of a legal term than a scientific term. And no, I have never used that."

Expert Name	Citation	Quote
		"Q: What do you mean by "the ATSDR's definition of equipoise and above served as guidance for me in this
		case"?
		A: I took it into consideration when I was looking at the the matarial.
		Q: In what way?
		A: Comparing whether a particular study met, or the cumulative exposures met that criteria.
		Q: Met the equipoise criteria?
		A. Yes.
		Q. Have you used equipoise in your non-litigation work to prove the probability of association?
	Gilbert Dep. Tr. at 43:2-44:4 (JA	A: Once again, I think equipoise is more of a legal term than a basic science term. So I don't believe I've ever
Dr. Kathleen Gilbert	Ex. 165, D.E. <u>470-4</u>)	used it in my ownh basic science research."
Dr. Katilicen Gilbert	Lx. 103, B.L. <u>170 1</u>)	"Q. You have not used the phrase "at least as likely as not" in any of your scientific papers, have you?
	Gondek GC Dep. Tr. at 250:18-	A. No. I think that's the legal statute."
Dr. Lukasz Gondek	21 (JA Ex. 160, D.E. <u>469-14</u>)	THE THOUT I MINIME VILLE TO TO TO THE WAY TO THE TOTAL T
DI. Lukasz Goliuck	21 (JA Ex. 100, D.E. <u>407-14)</u>	"A. They [PLG] provided me with the Camp Lejeune Justice Act and the standard that I should form my
	Candala CC Dan Tr. at 250.6 10	opinion based on, which has made my interpretation or different standard at what we used to use in legal
Dr. Lukasz Gondek	Gondek GC Dep. Tr. at 250:6-10 (JA Ex. 160, D.E. 469-14)	cases."
DI. Lukasz Goliuck	(JA Ex. 100, D.E. <u>409-14</u>)	"Q. Would you agree it's a term [equipoise] used in the legal and regulatory framework and not in causation
		assessments?
		MR. TELAN: Object to the form.
		A. Yeah. I think it it's an interpretation of the results. It's just a different standard of interpretation of the
	C - 1-1- CC D - T + 252-10	results. It's not a term used for causation. I agree."
Dr. Lylrogy Condols	Gondek GC Dep. Tr. at 252:10-	
Dr. Lukasz Gondek	18 (JA Ex. 160, D.E. <u>469-14</u>)	"A. I would add I do. I would add it's [equipoise] a genuine uncertainty among the medical community.
		People may have strong opinions one way or the other. I think in my understanding of equipoise it denotes
		that based on available data there is a genuine uncertainty whether there is or there's no association, for
	C 11 CCD T 4270 1 7	example."
De Lulrogg Condale	Gondek GC Dep. Tr. at 259:1-7	
Dr. Lukasz Gondek	(JA Ex. 160, D.E. <u>469-14</u>)	"Having reviewed the Camp Lejeune Justice Act (CLJA), it is my understanding that in order to prove
		causation, the evidence showing that the relationship between exposure to the water and the specified harm,
		for example, Leukemia, is sufficient to demonstrate that a causal relationship is at least as likely as not."
	C 11 CCD AAGAE	that a chample, Dealtering, is sufficient to demonstrate that a causal folditionship is at least as fixely as not.
D. I1 C. 1.1	Gondek GC Rep. at 4 (JA Ex. 96,	
Dr. Lukasz Gondek	D.E. <u>465-1</u>)	

Expert Name	Citation	Quote
Dr. Benjamin Hatten	Hatten GC Dep. Tr. at 217:24-218:15 (JA Ex. 158, D.E. 469-12)	"Q: What does 'as likely as not' mean in these? A. It my understanding is that it is that there is some evidence or sufficient there is evidence that supports a causal link between the exposure and outcome of concern. However, it does not rise to the level of -a level to fully establish that as a confirmed or accepted causal association. That framework is the one that was utilized by the government, the U.S. Government in the ATSDR 2017 analysis of hte evidence and is even, at least in my opinion, I think as I state in the report, is even more conservative than what the plain language of the causal burden is in the statute, at least the way I would read it as a scientist."
Dr. Benjamin Hatten	Hatten GC Dep. Tr. at 220:7-19 (JA Ex. 158, D.E. 469-12)	"Q. And would it be fair to say that you don't generally use the 'as likely as not' standard in your expert reports outside of the Camp Lejeune litigation? A. I have not used that framework outside of Camp Lejeune, but I'm also not aware that other than specific circumstances, when it is the weight of the standard for evience has been altered by by the egislature, that that is not typically omething I would use outside of that unless there i a specific directive to use a different that standard."
J	Hatten GC Rep. (Bladder) at 6	"For ease of discussion, the causation evaluation below utilizes the framework as promulgated by the ATSDR. From a scientific perspective, such a framework is more stringent than the plain language of the statute that established this causation standard Additionally, there is no universal consensus on how an at least "as likely as not" standard is to be evaluated. The framework from the ATSDR is scientifically valid, methodologically sound and is consistent with my extensive education, training and experience as described above. This discussion is moot in the discussion of bladder cancer as it is clear that the body of evidence supports a determination of sufficient evidence for causation following exposure to the contaminated water at Camp Lejeune. The causal relationship between bladder cancer and the toxins in the water at Camp Lejeune would meet a more stringent "more likely than not" standard. However, in the case of other outcomes, the ATSDR framework provides one of several appropriate means of evaluating causation and was the classification system itself created and chose to use to analyze these same issues."
Dr. Benjamin Hatten	(JA Ex. 76, D.E. <u>463-15</u>)	

Expert Name	Citation	Quote
		"Q: You also quote the language of the act that quote, 'The CLJA's language that a plaintiff must, quote, 'show one or more relationships between the water at Camp Lejeune and the harm,' end quote, and to meet the burden of proof, a party shall produce evidence showing that the relationship between exposure to the water at Camp Lejeune and the harm is sufficient to conclude that a causal relationship exists; or B, sufficient to conclude that a causal relationship is not' I'm sorry - 'is at least as likely as not.' Did I read that correctly? A. Yes. Q. Did the plaintiffs' attorneys provide you with the burden and standard-of-proof section of the Camp
	Hu GC Dep. Tr. at 64:15-65-11	Lejeune Justice Act? A. Yes. Q. Were you instructed to rely on that in your analysis? MS. GREENWALD: Objection. Form. A. I was instructed that that was an option I could use in my analysis."
Dr. Howard Hu Dr. Howard Hu	(JA Ex. 162, D.E. <u>470-1</u>) Hu GC Dep. Tr. at 65:24-66:3 (JA Ex. 162, D.E. <u>470-1</u>)	"Q. In any case in which you've served as a general causation expert, have you interpreted a statute's legal causation standard? A. No."
Dr. Howard Hu	Hu GC Dep. Tr. at 68:13-17 (JA Ex. 162, D.E. <u>470-1</u>)	"Q. Did any of the epidemiology studies you rely on in your report use the term 'equipoise' or 'at least as likely as not' to describe a positive association? A. Not that I recall."
Dr. Howard Hu	Hu GC Dep. Tr. at 68:22-24 (JA Ex. 162, D.E. <u>470-1</u>)	"Q. Is there published scientific guidance on how one would apply the equipoise standard? A. Not that I am aware of."
Dr. Howard Hu	Hu GC Dep. Tr. at 68:25-69:3 (JA Ex. 162, <u>470-1</u>)	"Q. Have you ever used the equipoise standard for describing positive associations? A. Not that I not that I recall."
Dr. Howard Hu	Hu GC Dep. Tr. at 68:2-8 (JA Ex. 162, D.E. 470-1)	"Q. Have you ever written an expert report that uses this scheme? MS. GREENWALD: Objection. Form. You mean other than this one? BY MS. KLIMEK: Q. Other than this one, I'm sorry. A. Yeah, not that I recall."
Dr. Howard Hu	Hu GC Dep. Tr. at 68:9-12 (JA Ex. 162, D.E. <u>470-1</u>)	"Q. Have you ever read any type of scientific published article that uses equipoise and above? A. Well, not that I recall as I sit here today."
Dr. Howard Hu	Hu GC Dep. Tr. at 69:9-13 (JA Ex. 162, <u>470-1</u>)	"Q. Would you agree that the equipoise denotes a lack of consensus across the medical community? MS. GREENWALD: Objection. Form. A. I'm not sure it's ever been considered in the medical community."

Expert Name	Citation	Quote
	Hu GC Rep. at 30 (JA Ex. 111,	"Overall, in my opinion, the weight of the epidemiologic evidence tilts toward there being at least as likely, if
Dr. Howard Hu	D.E. <u>466-5</u>)	not more than likely, a causal relationship between PCE and NHL."
		"Standard Applied It is my understanding that the Camp Lejeune Justice Act of 2022, the controlling statute in this case, states that a plaintiff must 'show one or more relationships between the water at Camp Lejeune and the harm.' 'To meet that burden of proof a party shall produce evidence showing that the relationship between
Dr. Howard Hu	Hu GC Rep. at 7-8 (JA Ex. 111, D.E. <u>466-5</u>)	exposure to the water at Camp Lejeune and the harm is—(A) sufficient to conclude that a causal relationship exists; or (B) sufficient to conclude that a causal relationship is at least as likely as not."
Dr. Timothy Mallon	Mallon GC Rep. (Kidney) at 24 (JA Ex. 92, D.E. <u>464-13</u>)	"Thus, in my opinion, the evidence supports the association reaching an as likely as not or equipoise and above standard for the risk of kidney cancer following TCE exposure."
Dr. Timothy Mallon	Mallon GC Rep. (Kidney) at 33 (JA Ex. 92, D.E. <u>464-13</u>)	"In my opinion, the analysis of the currently available evidence using the Bradford Hill framework makes it as likely as not that benzene is a cause of kidney cancer to a reasonable degree of medical certainty."
Dr. Timothy Mallon	Mallon GC Rep. (Kidney) at 47 (JA Ex. 92, D.E. <u>464-13</u>)	"In my opinion, the analysis of the currently available evidence using the Bradford Hill Framework makes it at least as likely as not that Vinyl Chloride is a cuase of kidney cancer to a reasonable degree of medical certainty."
Dr. Timothy Mallon	Mallon GC Rep. (Kidney) at 49 (JA Ex. 92, D.E. <u>464-13</u>)	"Conclusion: TCE, PCE, Vinyl Chloride and Benzene Exposure at Least as Likely as not Causes Kidney Cancer"
Dr. Timothy Mallon	Mallon GC Rep. (Kidney) at 6 (JA Ex. 92, D.E. <u>464-13</u>)	"I conclude to a reasonable degree of medical and scientific certainty that there is as likely as not a causal relationship between exposure to benzene and kidney cancer."
Dr. Timothy Mallon	Mallon GC Rep. (Kidney) at 6 (JA Ex. 92, D.E. <u>464-13</u>)	"I conclude to a reasonable degree of medical and scientific certainty that there is as least as likely as not a causal relationship exists between exposure to Vinyl Chloride and kidney cancer."
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 3 (JA Ex. 98, D.E. 465-3)	"In this report, I conclude to a reasonable degree of medical and scientific certainty that there is at least as likely as not a causal relationship between exposure to PCE and Leukemia"
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 3 (JA Ex. 98, D.E. 465-3)	"The following is my medical expert opinion on whether there is at least as likely as not a causal relationship between exposure to the chemicals in the water at the Camp Lejeune military base, including trichloroethylene (TCE), tetrachloroethylene (PCE), and benzene, and the development of leukemia."
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 39 (JA Ex. 98, D.E. <u>465-3</u>)	"Conclusion: PCE Exposure At least As Likely As Not Causes Leukemia"
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 40 (JA Ex. 98, D.E. <u>465-3</u>)	"In my opinion, the analysis of the currently assembled evidence using the Bradford Hill framework, makes it at least as likely as not that PCE is a cause of leukemia."
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 42 (JA Ex. 98, D.E. <u>465-3</u>)	"Conclusion: TCE, PCE, and Benzene Exposure at Least as Likely as Not Causes Leukemia"
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 42 (JA Ex. 98, D.E. <u>465-3</u>)	"In consideration of the epidemiological evidence, animal studies and mechanistic data, it is my professional opinoin, to a reasonable degree of medical and scientific certainty, that PCE is at least as likely as not a cause of leukemia at the levels of exposure that were known to exist at Camp Lejeune[.]"

Expert Name	Citation	Quote
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 5 (JA Ex. 98, D.E. 465-3)	"Based on my years of mediacl and epidemiological training and expertise, I am familiar with the term 'equipoise' and find ATSDR's definitions of 'equipoise and above' or 'at least as likely as not' to be appropriate in this case. I find the above pathways to be reasonable and appropriate methods to meet the 'at least as likely as not' standard. I make clear above and through the rest of the report where my opinions are expressed under the 'more likely than not' or 'at least as likely as not' standard.
Dr. Timothy Mallon	Mallon GC Rep. (Leukemia) at 50:3-18 (JA Ex. 98, D.E. <u>465-3</u>)	"Q: Your testimony is that these articles may have used the term 'at least as likely as not'? A: No. I'm saying that we reported the results of the research, and in there we describe similar terminology that says that we found an association that approached significance. So 'at least as likely as not,' we didn't use those terms, but a description of the results in a similar fashion. Q: Have you ever read in a peer-review publication the term 'as likely as not' or 'at least as likely as not' for determining causation? A: Certainly the Bove articles and the ATSDR report. I'm trying to remember, thinking prior to that, reading research that would describe those terms. I don't recall any specifics."
Dr. Gary Miller	Miller GC Dep. Tr. at 168:7-19 (JA Ex. 171, D.E. <u>470-10</u>)	"Q And what does 'as likely as not' mean in that statement? A Oh, 'as likely as not' means as described, it's the majority by just the smallest amount. That language, my understanding from the Camp Lejeune settlement I can't remember what the title of that document is but that was the standard set in this case. Q Are you referring to the Camp Lejeune Justice Act? A Justice Act, sorry, yes. Q And was that provided to you by counsel? A Yes."
Dr. Gary Miller	Miller GC Dep. Tr. at 169:20-24 (JA Ex. 171, D.E. <u>470-10</u>)	"Q Do you have any scientific articles published that incorporate at least as likely as not as the A I would not use that terminology in a scientific manuscript."

Expert Name	Citation	Quote
Expert Name	Citation	"Q And so this category scheme overall on page six and seven, have you ever published an article using this scheme? A My understanding is this scheme is based on more of a regulatory framework with what the Centers for Disease Control and the Agency for Toxic Substance Disease Registry works with. This is not the sort of vernacular used in the scientific literature. So, for example, 'equipoise' is a term I have never used in my scientific career. It's not how we tend to describe laboratory-type research. Q Have you ever written an expert report using the standard? A Not using the the terms that are used in this standard. Q Have you ever read a scientifically-published article using the standard? A The the words like 'sufficient evidence for causation' and 'causal relationship, causal connection,' those terms are common in papers that I would read. The equipoise is not something that is in the toxicology or Parkinson's literature that I've come across. But the idea of evidence for causation and a
Dr. Gary Miller	Miller GC Dep. Tr. at 94:7-95:10 (JA Ex. 171, D.E. <u>470-10</u>)	causal association, those terms are used. But these have a very much more of a regulatory sort of framing." "Paged on the known chamical similarity between TCE and DCE and the common routes of exposure
Dr. Gary Miller	Miller GC Rep. at 20 (JA Ex. 132, D.E. <u>467-15</u>)	"Based on the known chemical similarity between TCE and PCE and the common routes of exposure, metabolism, and toxicity, my training, education, experience, and to a reasonable degree of scientific certainty, it is my professional opinion that PCE is at least as likely as not to be a cause of Parkinson's disease."
Dr. Laura Plunkett	Plunkett Dep. Tr. at 57:12-17 (JA Ex. 157, D.E. 469-11)	"Q. So you do equate 'equipoise and above' aswith 'at least as likely as not'? A. I would, as a scientist, based on my reading of these documents and and my understanding of what the 'at least as likely as not' standard means within the Camp Lejeune Act."
Dr. Laura Plunkett	Plunkett Rep. at 20 (JA Ex. 81, D.E. 464-2)	"Based upon my education, training and experience, and considering the data and information identified and reviewed, it is my opinion to a reasonable degree of scientific certainty that it is at least as likely as not that exposure to perchloroethylene from contaminated water at Camp Lejeune was hazardous to human health generally, that exposure to the Camp Lejeune water contaminated with perchloroethylene specially is hazardous to human health, and, further, that the human health hazard would include the development of bladder cancer."
Dr. Laura Plunkett	Plunkett Rep. at 26 (JA Ex. 81, D.E. <u>464-2</u>)	"Based upon my education, training and experience, and considering the data and information identified and reviewed, it is my opinion to a reasonable degree of scientific certainty that it is at least as likely as not that exposure to trichloroethylene from contaminated water at Camp Lejeune was hazardous to human health generally, that exposure to the Camp LeJeune water contaminated with trichloroethylene specifically is hazardous to human health, and, further, that the human health hazard associated with exposure to Camp Lejeune water that contained trichloroethylene would include bladder cancer."

Expert Name	Citation	Quote
Dr. Laura Plunkett	Plunkett Rep. at 31 (JA Ex. 81, D.E. <u>464-2</u>)	"Based upon my education, training and experience, and considering the data and information identified and reviewed, it is my opinion to a reasonable degree of scientific certainty that it is at least as likely as not that exposure to benzene from contaminated water at Camp Lejeune was hazardous to human health generally, that exposure to the Camp Lejeune water contaminated with benzene specially is hazardous to human health, and, further, that the human health hazard could include the development of bladder cancer."
Dr. Laura Plunkett	Plunkett Rep. at 34 (JA Ex. 81, D.E. <u>464-2</u>)	"Based upon my education, training and experience, and considering the data and information identified and reviewed, it is my opinion to a reasonable degree of scientific certainty that it is at least as likely as not that exposure to vinyl chloride from contaminated water at Camp Lejeune was hazardous to human health generally, that exposure to the Camp Lejeune water contaminated with vinyl chloride specially is hazardous to human health, and, further, that the human health hazard would include the development of cancer."
Dr. Laura Plunkett	Plunkett Rep. at 37 (JA Ex. 81, D.E. <u>464-2</u>)	"When the epidemiological data on people that lived and worked at Camp LeJeune, as well as all of the other information reviewed and listed in this section of my report, is considered in light of my education, training, and experience, it is my opinion to a reasonable degree of scientific certainty that it is at least as likely as not that exposure to the chemicals that contaminated water at Camp Lejeune was hazardous to human health generally, and that the human health hazard would include the development of cancer."